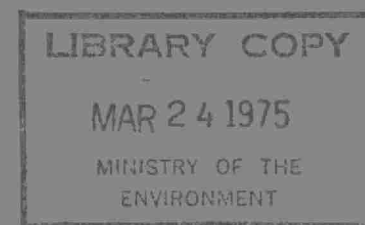


OPERATING SUMMARY

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WESTMINSTER TWP.

WATER POLLUTION CONTROL PLANT

1973

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Ontario

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REGIONAL OPERATIONS
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REGIONAL OPERATIONS DIVISION

DIRECTOR, SOUTHWESTERN REGION
D. McTavish

MANAGER, UTILITY OPERATIONS
A. Ladbroke

WESTMINSTER TWP.
WATER POLLUTION CONTROL PLANT

operated for
THE TOWNSHIP OF WESTMINSTER
by the
MINISTRY OF THE ENVIRONMENT

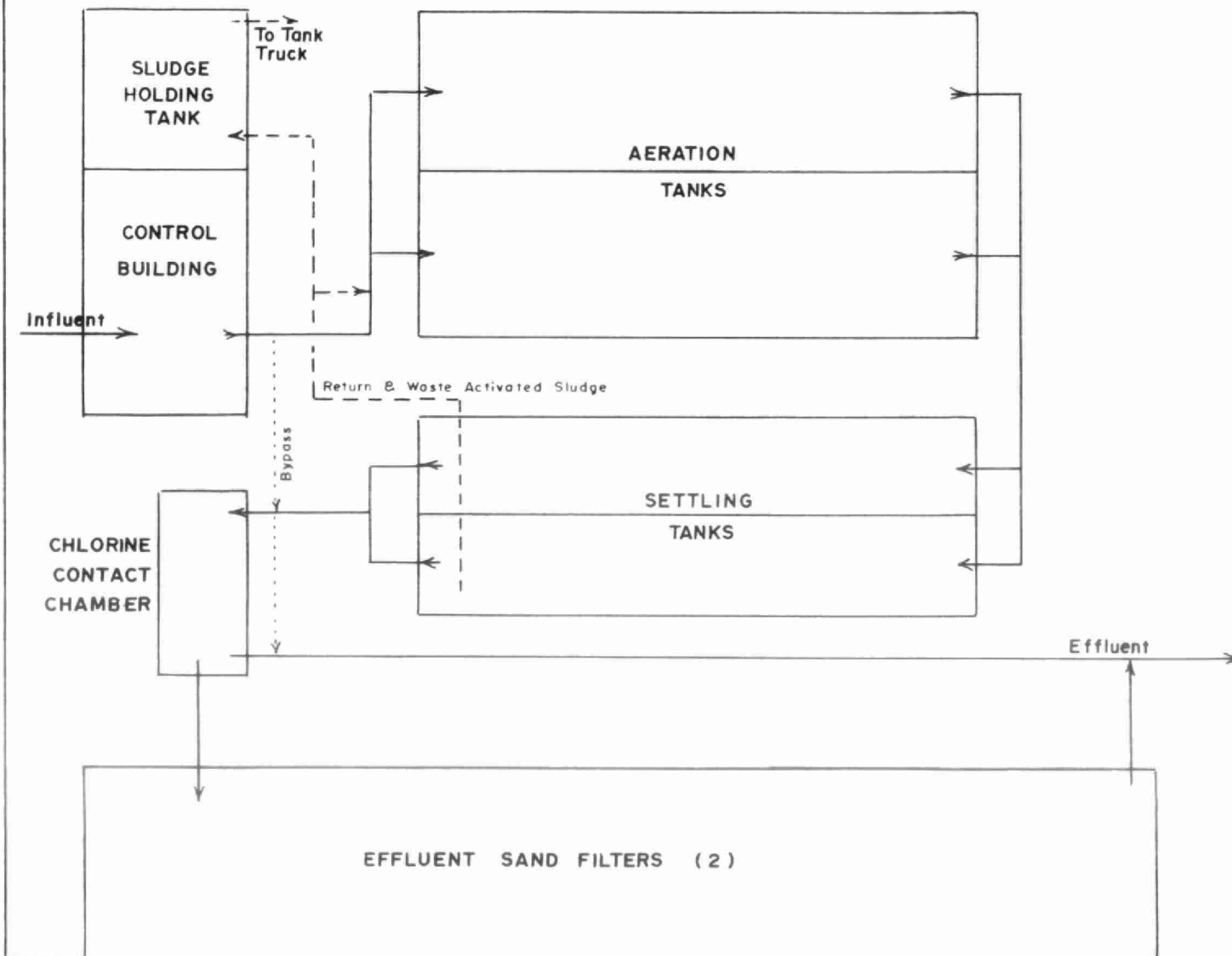
1973 ANNUAL OPERATING SUMMARY

prepared by
Plant Performance Unit
TECHNICAL SERVICES BRANCH
T. Cross, Director

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WESTMINSTER TOWNSHIP W.P.C.P.



DESIGN DATA

PROJECT Westminster Twp. WPCP
PROJECT NO. 2-0033-59
TREATMENT Extended Aeration
DESIGN FLOW 0.25 mgd
DESIGN POPULATION 5,000

PRETREATMENT

Comminution

Type: Barminutor
Size: One Model B (12")
Chicago Pump Co.

RAW SEWAGE PUMPS

Make: Chicago Pump
#1 - 100 gpm @ 23' tdh
Type: 4x4, 2hp electric
#2 - 100 gpm @ 23' tdh
Type: 4x4, 2hp electric
with standby Wisconsin
THD size $3\frac{1}{4}$ x $3\frac{1}{4}$ gasoline engine
#3 - 250 gpm x 20' tdh
Type: LMC4, 3 hp electric

SECONDARY TREATMENT

Aeration Tanks

Type: Diffused air; single-pass
Size: Two 54' x 27' x 14' (252,000 gal)
Retention: 24.2 hr

Diffusers

- Discfusers on swing arm

Air Supply

Type: Sutorbilt
Size: Three 337 scfm @ 7 psi

Secondary Sedimentation

Type: Link-Belt
Size: Two 54' x 8' x 9.25' (50,200 gal)
Retention: 4.80 hr
Loading: Surface, 580 gal/ft²/day
Weir, 1955 gal/ft/day

CHLORINATION

Type: W & T
Size: One 100 lb/day

Chlorine Contact Chamber

Size: One 10' x 7' x 9' (3930 gal)
Retention: 22.7 min

OUTFALL

- to Dingman Creek

TERTIARY TREATMENT

Effluent Sand Filters

Size: Four units (26,900 sq ft or 0.62 acres)
Depth: 30" of sand (min)
Capacity: .405 mil gal/acre/day

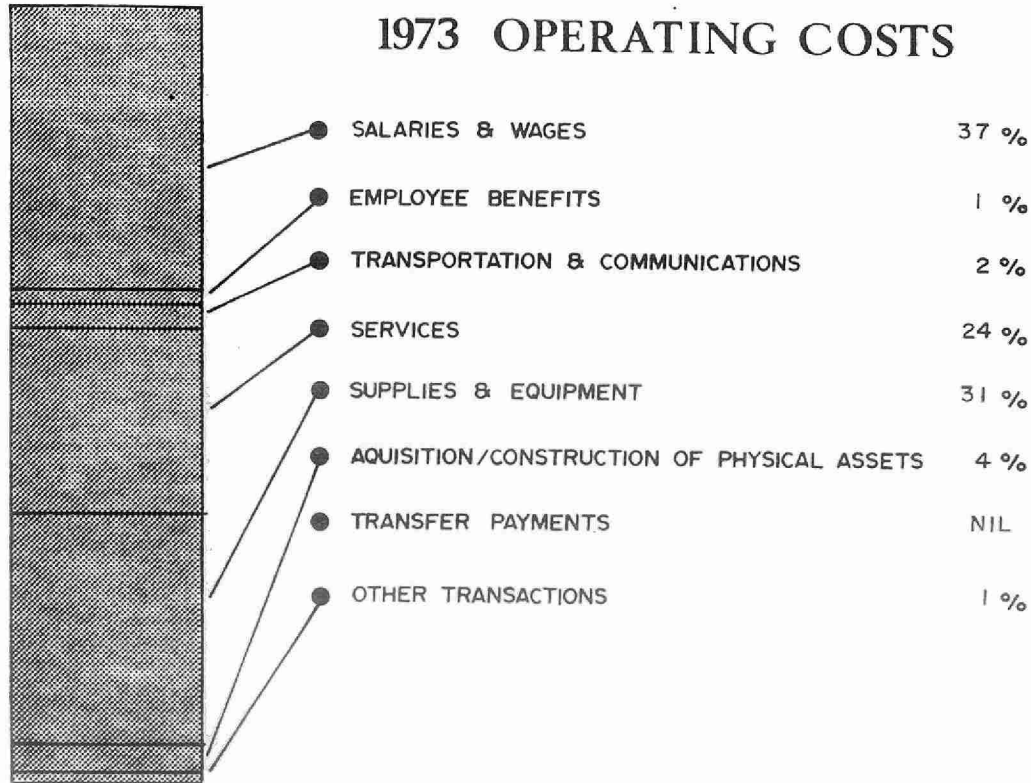
SLUDGE HANDLING

Sludge Holding Tank

Size: 4,460 cu ft or 27,850 gal

ANNUAL COSTS

1973 OPERATING COSTS



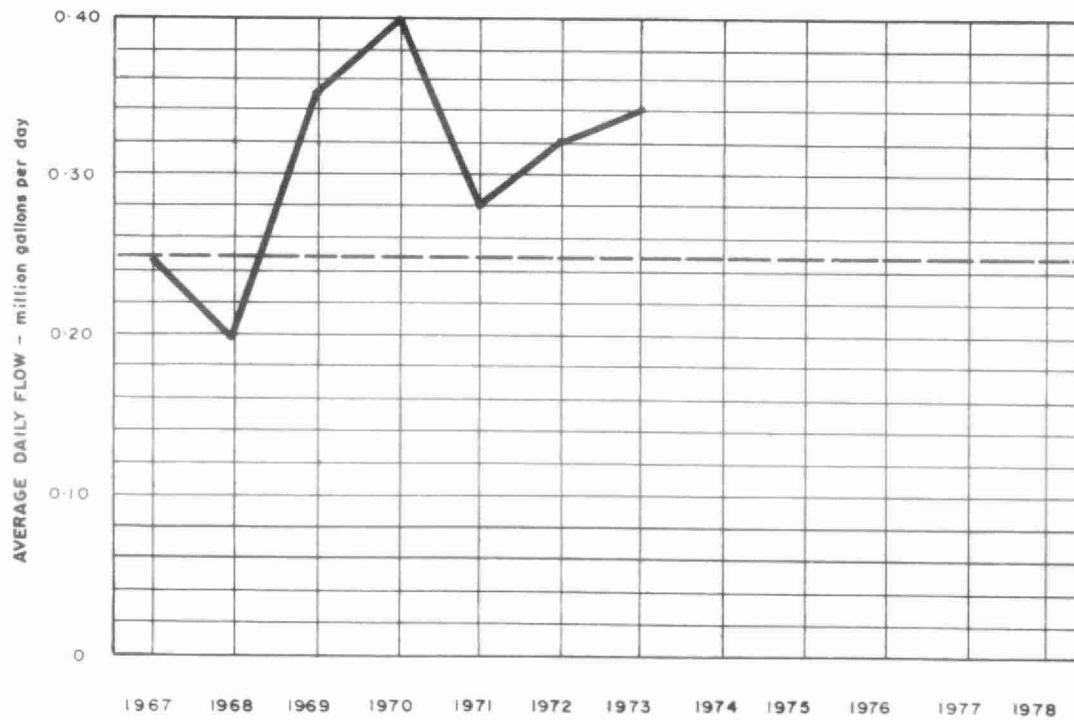
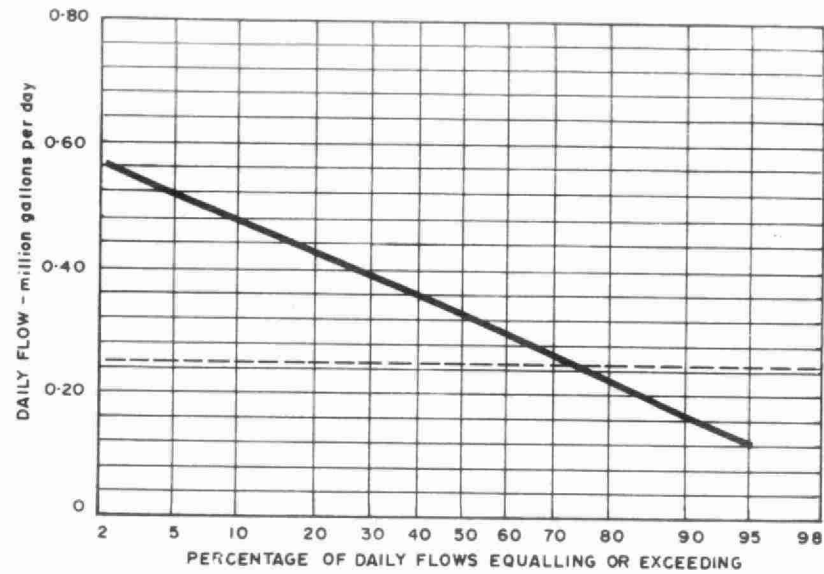
YEARLY OPERATING COSTS

YEAR	SEWAGE TREATED in million gallons	TOTAL OPERATING COSTS	UNIT COSTS	
			\$/M.G.	¢/lb BOD
1968	76	\$ 15,471	204	11
1969	126	17,264	137	16
1970	146	24,171	165	18
1971	103	18,608	180	15
1972	116	29,017	246	18
1973	126	48,788	388	25

OPERATING EXPENDITURES

SALARIES AND WAGES	<u>\$18,183</u>
EMPLOYEE BENEFITS	<u>507</u>
TRANSPORTATION & COMMUNICATIONS	<u>1,023</u>
SERVICES	<u>11,859</u>
SUPPLIES AND EQUIPMENT	<u>15,106</u>
ACQUISITION/CONSTRUCTION OF PHYSICAL ASSETS	<u>1,745</u>
TRANSFER PAYMENTS	<u>0</u>
OTHER TRANSACTIONS	<u>365</u>
TOTAL	<u>\$48,788</u>

PROCESS DATA FLOWS

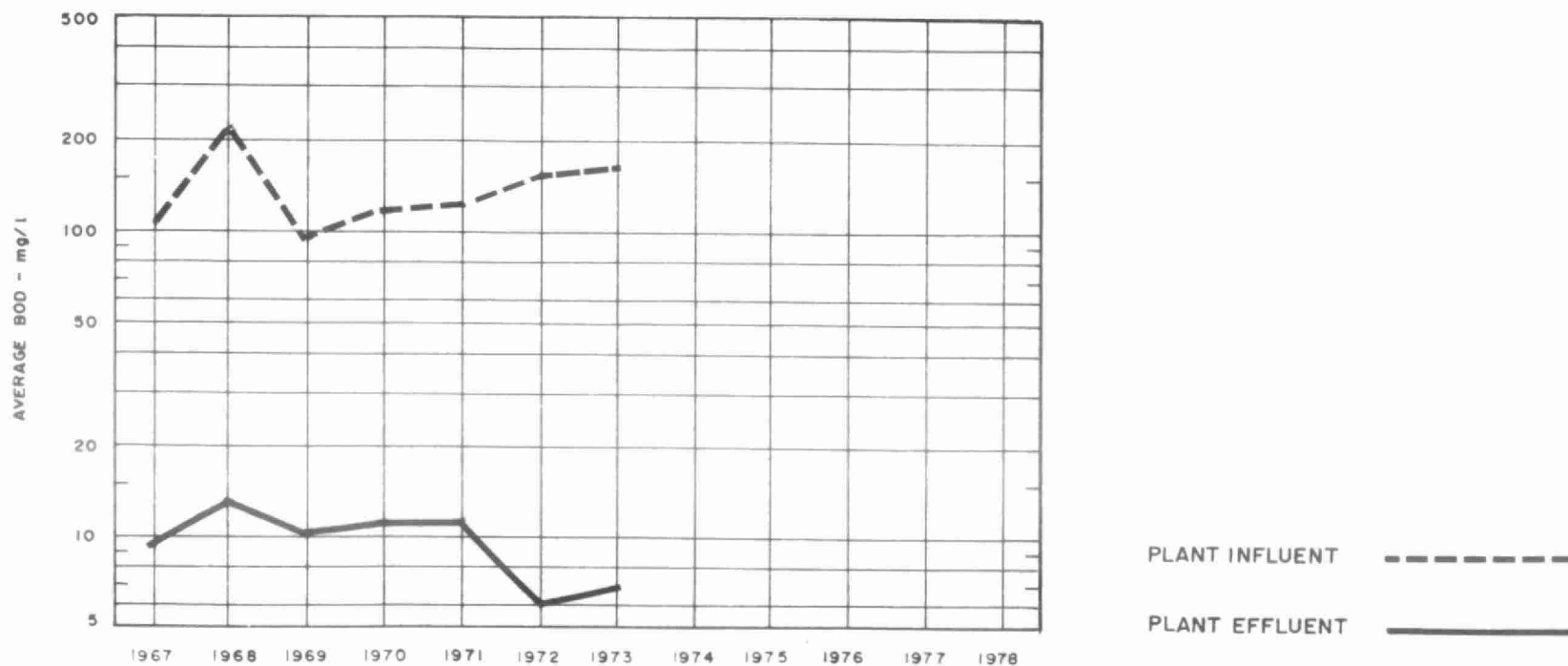
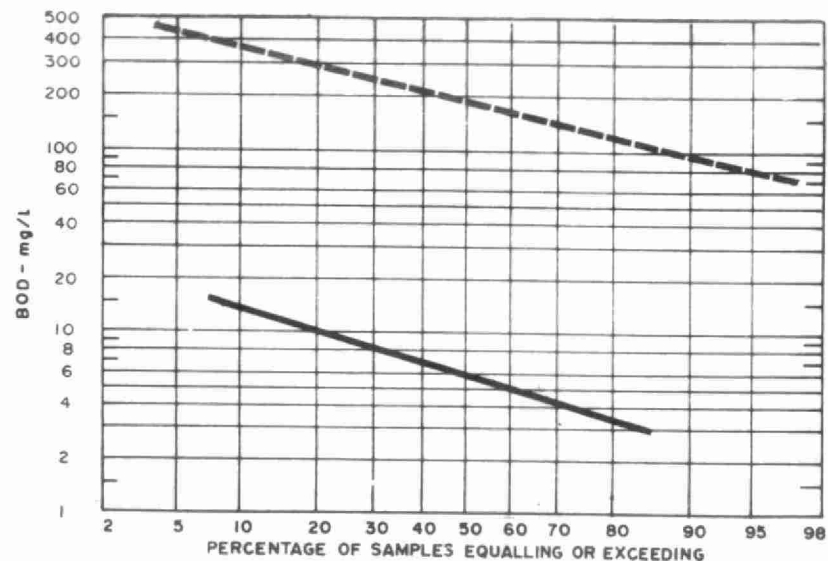


DESIGN CAPACITY -----

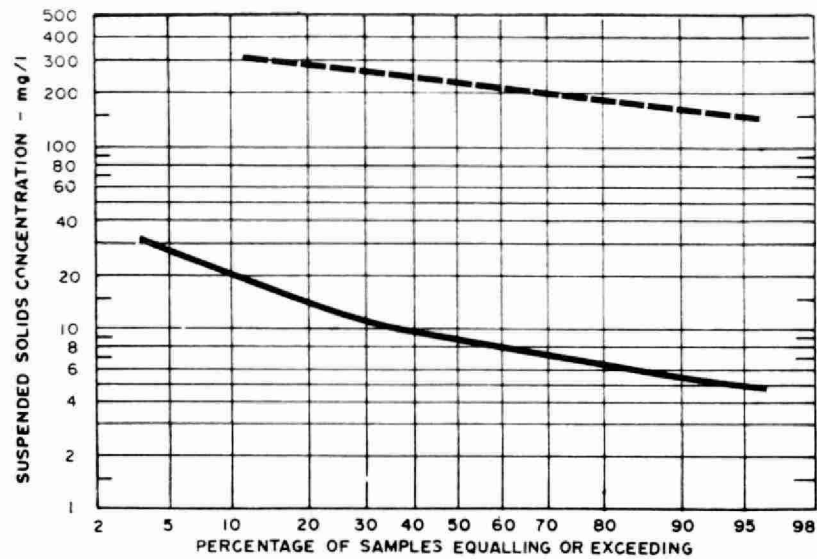
PLANT PERFORMANCE

MONTH	FLOWS			BIOCHEMICAL OXYGEN DEMAND				SUSPENDED SOLIDS				PHOSPHORUS	
	TOTAL FLOW million gallons	AVERAGE DAY mil. gal	MAXIMUM DAY mgd	INFLUENT mg/l	EFFLUENT mg/l	REDUCTION		INFLUENT mg/l	EFFLUENT mg/l	REDUCTION		INFLUENT mg/l P	EFFLUENT mg/l P
						%	10 ³ pounds			%	10 ³ pounds		
JAN	11.99	0.39	0.59	155	11	93	17	155	5	97	18	9.0	0.6
FEB	9.58	0.34	0.66	135	10	93	12	140	8	94	13	8.2	0.6
MAR	15.47	0.50	0.58	90	5	94	13	260	5	98	39	5.1	1.3
APR	11.69	0.39	0.55	260	8	94	29	310	5	98	36	10.0	1.7
MAY	11.10	0.36	0.51	130	3	98	14	233	7	97	25	7.9	1.2
JUNE	10.47	0.34	0.49	310	4	99	32	225	5	98	23	6.1	1.1
JULY	8.61	0.28	0.40	180	5	98	15	195	8	96	16	9.7	1.4
AUG	4.29	0.14	0.27	190	2	99	8	260	12	95	11	7.9	0.7
SEPT	7.75	0.26	0.38	165	4	98	12	225	8	96	17	7.5	1.3
OCT	10.68	0.34	0.55	200	13	93	20	275	8	97	29	6.9	1.0
NOV	12.92	0.43	0.58	120	11	91	14	200	20	90	23	5.9	0.9
DEC	11.04	0.36	0.48	95	6	94	10	240	8	97	26	4.9	0.5
TOTAL	125.59	-	-	-	-	-	192	-	-	-	276	-	-
AVG.		0.34	MAXIMUM 0.66	164	7	96	16	223	8	96	23	7.3	1.0
No. of Samples	-	-	-	24	24	-	-	24	24	-	-	24	24

BIOCHEMICAL OXYGEN DEMAND

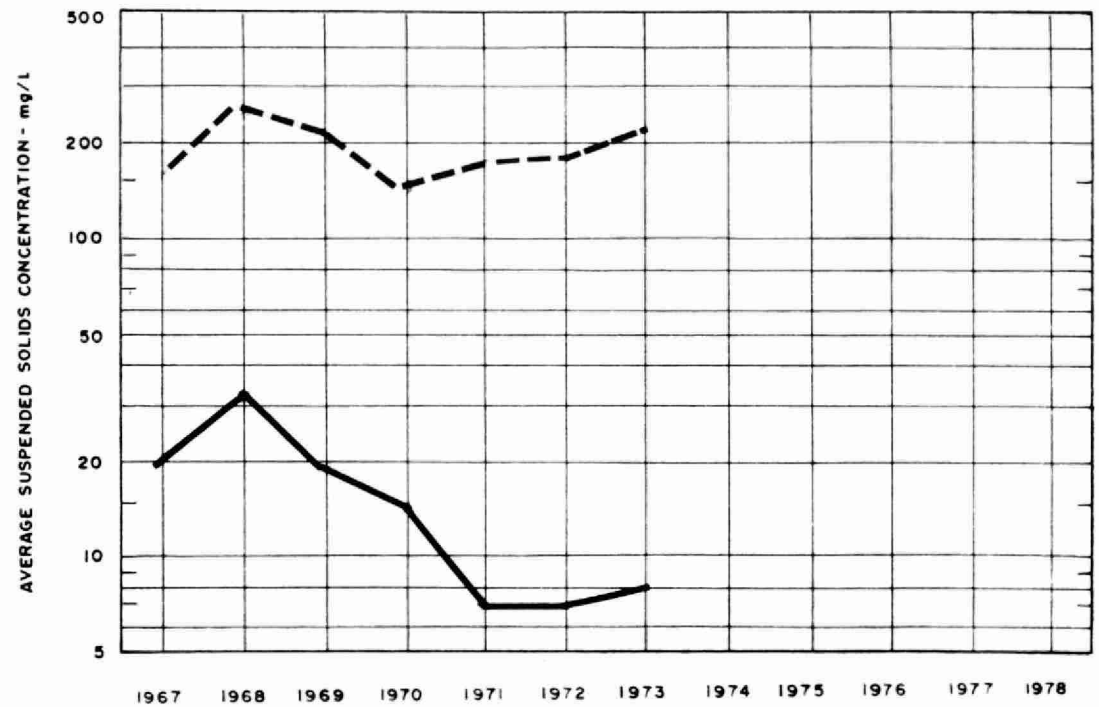


SUSPENDED SOLIDS

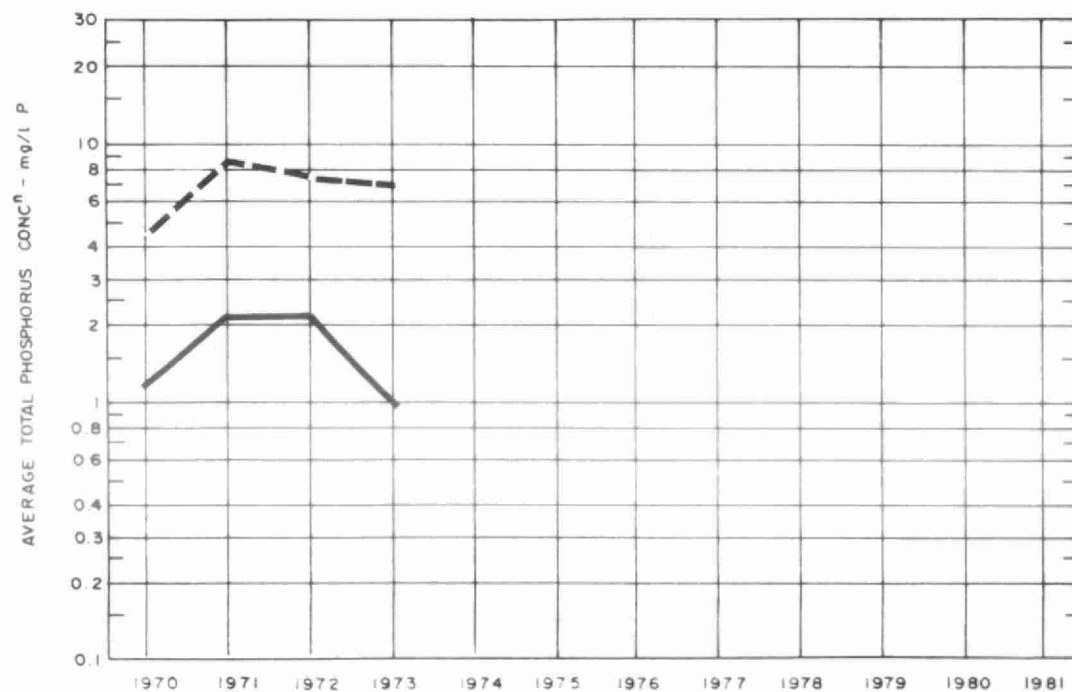
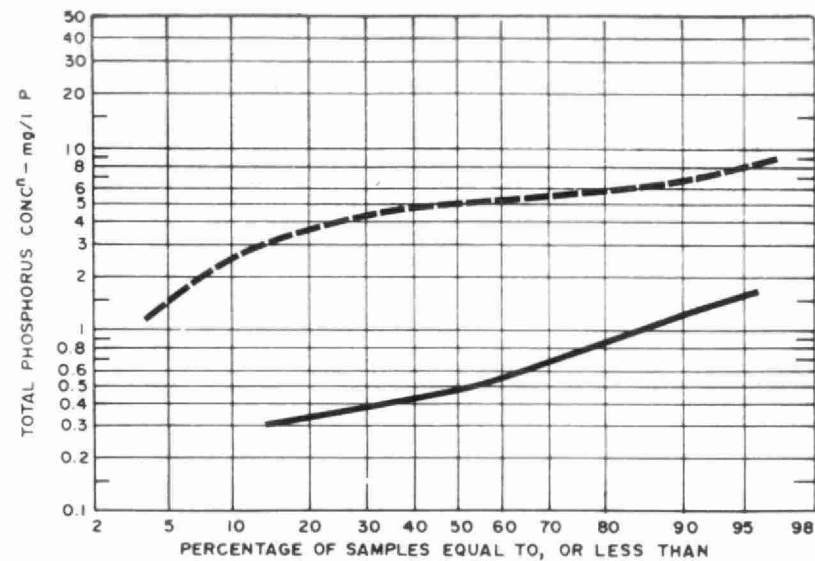


PLANT INFLUENT - - - - -

PLANT EFFLUENT _____



PHOSPHORUS



PLANT INFLUENT -----

PLANT EFFLUENT _____

TREATMENT DATA

MONTH	GRIT	CHLORINATION		AERATION			WASTE SLUDGE			AEROBIC DIGESTER			
	QUANTITY REMOVED	CL ₂ USED	AVG. DOSAGE	MLSS CONC	F/M	AIR USED	QUANTITY	SUSPENDED SOLIDS	VOL. SOLIDS	QUANTITY REMOVED	SUSPENDED SOLIDS	VOL. SOLIDS	AMOUNT HAULED
	cubic feet	pounds	mg/L	mg/L	day ⁻¹	$\frac{1000 \text{ ft}^3}{\text{lb BOD}}$	10 ³ gallons	mg/l	%	10 ³ gallons	mg/L	%	cubic yards
JAN				3710	0.06	1.8	17	11660	69				
FEB				3150	0.06	2.3	6	8600	67				
MAR				2980	0.06	2.4	1	4850	63				
APR				3750	0.11	1.0	15	11550	68				
MAY		170	3.1	3830	0.05	2.1	11	10353	65				
JUNE		280	2.7	4150	0.10	0.9	25	12500	61				
JULY		304	3.6	3710	0.05		30	9230	61				
AUG		280	6.5	4370	0.02		5	7235	58				
SEPT		307	4.0	4250	0.06		21	7725	61				
OCT.		345	3.2	4740	0.05		19	9700	66	38.4	5700	66	6.5
NOV		141*	2.5	3520	0.06		2	11150	66				
DEC				4340	0.03		3	14590	56				
TOTAL		1827	—	—	—	—	155	—	—	38.4	—	—	6.5
AVG.	cu. ft/mil gal		3.4	3880	0.06	1.8	13	9929	63		5700	66	

* 16 days chlorination

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